REMARKS

Preliminarily, Applicants respectfully request the Examiner to return initialed Form PTO/SB/08 A & B (modified) for the Information Disclosure Statement filed January 13, 2006.

Claims 10 and 11 are objected to as being allowable if rewritten in independent form. Claims 1, 2 and 4-9 stand rejected over prior art.

Review and reconsideration on the merits are requested.

Claims 1, 2 and 4-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,217,989 to Brody et al. in view of JP 2000-67646 (JP '646) and U.S. Patent No. 5,928,804 to Leddy et al. Claims 7 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over JP '646 in view of Leddy et al. Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over JP '646 in view of Leddy et al., further in view of U.S. Patent No. 6,919,124 to Ito.

Brody et al. was cited as teaching a wiring board including a conductor layer 24 comprising Fe and Cu and at least one of a radiator, connection terminal, cover or circuit component 27 connected to the conductor layer through a joining member 20 obtained by coating a copper paste and simultaneously firing the green sheet and coated copper paste. JP '646 was cited as disclosing a copper paste comprising a copper powder, an organic vehicle and an iron oxide particle. The Examiner relied on Leddy et al. as showing that it is well known to use Fe_2O_3 as a particle for forming a conductor. The reason for rejection was that it would have been obvious to select Fe_2O_3 as the iron oxide for the copper paste of JP '646 for use in the wiring board of Brody et al.

The Examiner relied on Ito as teaching a conductive paste including certain types of ceramic particles having an average particle size of 100 μm, citing column 7, lines 5-20.

Applicants traverse, and respectfully request the Examiner to reconsider in view of the amendment to the claims and the following remarks.

Brody et al. does not teach a copper paste comprising a ceramic particle having an average particle size of 100 nm or less, as suggested by the Examiner. The subject passage of Brody et al. at column 3, lines 45-60 concerns minimizing the formation of cracks at junctions between conductive vias and conductive lines.

Furthermore, as discussed in the Remarks portion of the Amendment filed January 13, 2006, via 27 of Brody et al. is not at least one of a radiator, a connection terminal, a cover and a circuit component as required by present claim 1.

JP '646 discloses a conductive paste obtained by mixing a non-conductive powder, a conductive powder, a binder and a solvent.

More particularly, the paste of JP '646 employs a thermosetting resin, which is crosslinked (paragraph [0039]) by heat treatment at 270 to 350°C to obtain a conductor (conductor and non-conductor particulate matters present in the resin), where by the conductive particles are not sintered. Further, as described in the examples of JP '646, the conductor is formed on a ceramic insulating substrate on which Ag has been fired in advance (paragraph [0049]).

The technique of JP '646 is entirely different from that of the present invention in terms of composition, use applications and basic concept, wherein, by simultaneous firing a green sheet

at a temperature of from 850° to 1050°C, an electrode comprising a fired copper paste is obtained (the resin being exhausted during firing and thus absent from the resulting electrode).

A carbon-containing paste such as that of JP '646 is difficult to decompose at temperatures below 1000°C in an air atmosphere for simultaneous firing with Cu. Therefore such a paste cannot be used, and therefore one of ordinary skill would not have been led to use the conductive paste of JP '646 for firing in combination with a ceramic green sheet.

For instance, Example 1 of JP '646 exemplifies a conductive paste containing carbon black as the conductive powder which would not be suitable for firing.

Furthermore, there is no specific disclosure of the combination of conductive copper powder and non-conductive Fe_2O_3 particles. That is, in order to arrive at the combination of a conductive paste containing copper powder and a Fe_2O_3 particle, one of ordinary skill in reading JP '646 would have to select such combination from a large number of possible conductive and non-conductive powders.

Leddy et al. has nothing to do with conductive wiring pastes. The cited passage at column 19, lines 30-50 concerns a magnetic iron oxide composite for surface modification of electrodes. As shown in Fig. 18B of Leddy et al., such modified electrode 804 includes coating 808 formed from a composite which includes magnetic microbead material 812 having an aligned surface magnetic field, an ion exchange polymer 816 and an electro-active polymer 820 (column 48, lines 33-44). This is a type of iron oxide microbead composite discussed at column 19, which electrode coating has nothing to do with providing a conductive paste comprising copper powder and a Fe_2O_3 particle, and has nothing to do with a conductor layer formed by

simultaneously firing a ceramic green sheet and coated copper paste to form a wiring pattern on a wiring board. That is, contrary to the Examiner's suggestion, there is nothing in Leddy et al. which would lead one of ordinary skill to incorporate the iron oxide microbead of the magnetic composite layer of Leddy et al. into a conductive copper paste of Brody et al. or otherwise.

Lastly, claims 5 and 9 have been amended to exclude the tungsten carbide and molybdenum carbide ceramic particles of Ito et al. exemplified at column 7, lines 8-9. Support for the amendment to claims 5 and 9 is found, for example, at pages 11-13 of the specification.

For the above reasons, it is respectfully submitted that the present claims are patentable over the cited prior references, and withdrawal of the foregoing rejections is respectfully requested.

Withdrawal of all rejections and allowance of claims 1, 2 and 4-11 is earnestly solicited.

In the event that the Examiner believes that it may be helpful to advance the prosecution of this application, the Examiner is invited to contact the undersigned at the local Washington, D.C. telephone number indicated below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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